ACCESSION #: 9907120156

NON-PUBLIC?: N

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Virgil C. Summer Nuclear Station PAGE: 1 OF 3

DOCKET NUMBER: 05000395

TITLE: Reactor Trip Due to Spurious High Flux Trip Signal in

Power Range Nuclear Instrument Drawer N43

EVENT DATE: 06/04/1999 LER #: 1999-09-00 REPORT DATE: 07/06/1999

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: A.R. Rice Manager, TELEPHONE: (803) 345-4232

Nuclear Licensing & Operating Experience

COMPONENT FAILURE DESCRIPTION:

CAUSE: B SYSTEM: JC COMPONENT: MTR MANUFACTURER: W120

REPORTABLE EPIX: Y

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On June 4, 1999 at 1358 hours, while at 100 percent reactor power, the plant experienced a reactor trip upon receipt of 2 out of 4 logic coincidences for power range high flux trip. Prior to the trip, I&C technicians were performing surveillance STP 310.006, "NIS POWER RANGE N42 CALIBRATION." With Nuclear Instrumentation System (NIS) drawer N42 in TEST, a technician was in the process of sliding drawer N42 into its

cabinet when a trip signal was generated from the output of drawer N43, completing the 2 out of 4 logic required for a reactor trip. The plant was stabilized in Mode 3.

The appropriate Safety Related equipment functioned as designed. All auxiliary and secondary systems functioned as required. All control rods inserted fully into the core. The reactor remained in Mode 3, Hot Standby, until the cause was determined and corrective action was taken.

The cause of the plant trip was determined to be the generation of a spurious signal from the in-service N43 channel Power Range Upper Detector Current Meter. The defective meter was replaced and, following a post trip review of the plant response, the plant was returned to service at 0922 hours on June 6, 1999.

PLANT IDENTIFICATION

Westinghouse - Pressurized Water Reactor

EQUIPMENT IDENTIFICATION

Analogic model 8242C46GOI current meter

IDENTIFICATION OF EVENT

This event is documented in Condition Evaluation Report (CER) 99-0859.

EVENT DATE

June 4, 1999

REPORT DATE

July 6, 1999

CONDITIONS PRIOR TO EVENT

Mode 1, 100% power

DESCRIPTION OF EVENT

On June 4, 1999 at 1358 hours, while at 100 percent reactor power, the

plant experienced a reactor trip upon receipt of 2 out of 4 logic

coincidences for power range (PR) high flux. Prior to the trip, I&C

technicians were performing surveillance STP 310.006, "NIS POWER RANGE N42 CALIBRATION." With PR Nuclear Instrumentation System (NIS) drawer N42 in TEST, a technician was in the process of sliding drawer N42 into its cabinet when a spurious trip signal was generated from the output of drawer N43. This spurious signal completed the 2 out of 4 logic required for a reactor trip. The plant was stabilized in Mode 3.

CAUSE OF EVENT

The cause of the event is the failure of the Power Range Nuclear Instrument (channel N43) Upper Detector current meter and associated circuitry. Spurious spiking of this meter caused the high flux bistables for channel N43 to trip while the redundant channel N42 was in the test mode, completing the 2 out of 4 coincident logic required for a reactor trip.

ANALYSIS OF EVENT

Safety related equipment functioned appropriately and all auxiliary and secondary systems functioned as required. All control rods inserted fully in to the core and no safety injection occurred. The reactor was stabilized in Mode 3, no pressurizer or main steam relief valves opened and temperature was controlled by dumping steam to the condenser. Engineering confirmed, by review of the applicable schematic drawings, that the bistable trips and associated circuitry responses were in accordance with the system design. Additionally, the Independent Safety Engineering Group performed an evaluation of the plant trip and equipment responses and

found them to be appropriate.

CORRECTIVE ACTIONS

The results of a troubleshooting effort proved that vibration, induced by lightly tapping on the meter face, consistently produced a bistable trip on channel N43. The N43 meter was replaced and the problem could not be reproduced. The other channels were also checked by lightly tapping on the meter faces with no bistable trips occurring.

The current meter was sent to Westinghouse for evaluation. SCE&G plans no further action. The plant was returned to service at 0922 hours on June 6, 1999.

PRIOR OCCURRENCES

None

Gary J. Taylor

Vice President

Nuclear Operations

South Carolina Electric & Gas Co

Virgil C. Summer Nuclear Station

P.O. Box 88

Jenkinsville, South Carolina

29065

803.345.4344

803.345.5209

www.scana.com

SCE&G July 6, 1999

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Document Control Desk

U. S. Nuclear Regulatory Commission

Washington, DC 20555

Gentlemen:

Subject: VIRGIL C. SUMMER NUCLEAR STATION

DOCKET NO. 50/395

OPERATING LICENSE NO. NPF-12

LICENSEE EVENT REPORT (LER 1999-009-00)

REACTOR TRIP ON 2 OUT OF 4 HIGH FLUX BISTABLES DUE TO FAULTY POWER RANGE N43 METER CIRCUIT

Attached is Licensee Event Report No. 1999-009-00 for the Virgil C. Summer Nuclear Station. This report is being submitted in accordance with the requirements of 10CFR50.73(a)(2)(iv).

Should you have any questions, please call Mr. Jim Proper at (803) 345-4088.

Very truly yours,

Gary J. Taylor

GJT/jrp

Attachment

C: J. L. Skolds D. L. Abstance

W. F. Conway EPIX Coordinator

R. R. Mahan (w/o attachment) J. B. Knotts, Jr.

R. J. White INPO Records Center

L. A. Reyes J&H Marsh & McLennan

K. C. Cotton NSRC

NRC Resident Inspector RTS (LER 990009)

H. C. Fields File (818.07)

D. M. Deardorff DMS (RC-99-0124)

P. Ledbetter

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